

WHAT IS CLAIMED IS:

1. An image processing apparatus comprising:

input means for inputting image data having a hierarchical structure;

5 determination means for determining if the image data is a specific image; and

output means for selecting and outputting a layer to be output of the image data on the basis of a determination result of said determination means.

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2. The apparatus according to claim 1, wherein the image data complies with a hierarchical data format that hierarchically stores image data of a plurality of resolutions.

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3. The apparatus according to claim 2, wherein said output means selects image data in a lowest resolution layer when said determination means determines that the image data is the specific image.

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4. The apparatus according to claim 3, wherein said output means enlarges the image data in the lowest resolution layer to a size of image data in a highest resolution layer, and outputs the enlarged data.

5. The apparatus according to claim 1, wherein said determination means determines the specific image when the image data has a copyright.

5 6. An image processing apparatus comprising:  
input means for inputting image data;  
determination means for determining if the image  
data is a specific image;  
output permission detection means for obtaining  
10 output permission information of the image data; and  
image processing means for executing an image  
process that improves image quality of the image data  
in accordance with a determination result of said  
determination means and the output permission  
15 information.

7. The apparatus according to claim 6, wherein said determination means determines the specific image when the image data has a copyright.

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8. The apparatus according to claim 6, wherein noise is superposed on the image data, and

said image processing means removes noise from the image data.

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9. The apparatus according to claim 8, wherein said image processing means comprises:

holding means for holding predetermined data; and

conversion means for converting the image data on  
5 the basis of the predetermined data.

10. The apparatus according to claim 9, wherein the predetermined data is a predetermined filter coefficient, and

10 said conversion means executes a filter process of the image data on the basis of the filter coefficient.

11. The apparatus according to claim 6, wherein the  
15 image data complies with a hierarchical data format that hierarchically stores image data of a plurality of resolutions.

12. The apparatus according to claim 6, wherein said  
20 input means inputs image data transferred from an external apparatus.

13. The apparatus according to claim 6, further comprising image forming means for forming an image on  
25 the basis of the image data that has undergone the image process by said image processing means.

14. An image processing apparatus comprising:

input means for inputting image data having a hierarchical structure;

5 determination means for determining if the image data is a specific image; and

noise addition means for adding noise to the image data on the basis of a determination result of said determination means.

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15. The apparatus according to claim 14, wherein said determination means determines the specific image when the image data has a copyright, and

15 said noise addition means adds noise when said determination means determines that the image data is the specific image.

16. The apparatus according to claim 15, wherein said noise addition means averages pixel values in units of predetermined unit blocks in the image data.

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17. The apparatus according to claim 15, wherein said noise addition means removes high-frequency components of the image data.

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18. The apparatus according to claim 15, wherein said noise addition means adds predetermined fixed data to the image data.

5 19. An image processing apparatus comprising:

input means for inputting image data having a hierarchical structure;

determination means for determining if the image data is a specific image; and

10 pseudo halftone means for executing a pseudo halftone process of the image data on the basis of a determination result of said determination means.

20. The apparatus according to claim 19, wherein said  
15 pseudo halftone means allows pseudo halftone processes using a plurality of types of grayscale patterns, and executes a pseudo halftone process for a small number of gray levels for the image data when said determination determines that the image data is the  
20 specific image.

21. The apparatus according to claim 20, wherein said pseudo halftone means executes a pseudo halftone process for a smallest number of gray levels for the  
25 image data when said determination determines that the image data is the specific image.

22. The apparatus according to claim 20, further  
comprising holding means for holding parameters of the  
pseudo halftone process for a plurality of grayscale  
5 patterns, and

wherein said pseudo halftone means selects the  
parameter in accordance with the determination result.

23. The apparatus according to claim 19, wherein said  
10 pseudo halftone means executes a dither conversion  
process for the image data.

24. The apparatus according to claim 19, wherein said  
pseudo halftone means executes an error diffusion  
15 process for the image data.

25. The apparatus according to claim 19, wherein said  
determination means determines the specific image when  
the image data has a copyright.

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26. The apparatus according to claim 19, wherein the  
image data complies with a hierarchical data format  
that hierarchically stores image data of a plurality of  
resolutions.

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27. The apparatus according to claim 19, further comprising color conversion means for converting the image data into a plurality of color component data, and

5 wherein said pseudo halftone means executes pseudo halftone processes based on the determination result in units of color component data.

28. The apparatus according to claim 27, further comprising holding means for holding a plurality of types of color conversion parameters, and  
10 wherein said color conversion means selects the color conversion parameter in accordance with the determination result.

15 29. The apparatus according to claim 19, wherein said input means inputs image data transferred from an external apparatus.

20 30. The apparatus according to claim 19, further comprising image forming means for forming an image on the basis of image data that has undergone the pseudo halftone process.

25 31. An image processing apparatus comprising:

input means for inputting image data having a hierarchical structure;

determination means for determining if the image data is a specific image; and

5        color conversion means for executing a color conversion process for the image data on the basis of a determination result of said determination means.

32.    The apparatus according to claim 31, wherein said  
10    color conversion means converts the image data into monochrome data when said determination means determines that the image data is the specific image.

33.    The apparatus according to claim 32, wherein said  
15    color conversion means converts the grayscale pattern of the image data when said determination means determines that the image data is the specific image.

34.    The apparatus according to claim 32, wherein said  
20    color conversion means extracts one of a plurality of color component data that form the image data when said determination means determines that the image data is the specific image.

25    35.    The apparatus according to claim 32, wherein said color conversion means converts the image data into



data having an output color format consisting of a plurality of color components for output when said determination means determines that the image data is not the specific image.

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36. The apparatus according to claim 35, wherein said color conversion means converts the image data into one of a plurality of color component data that form the output color format when said determination means  
10 determines that the image data is the specific image.

37. The apparatus according to claim 31, wherein said color conversion means replaces the image data by predetermined data when said determination means  
15 determines that the image data is the specific image.

38. The apparatus according to claim 37, wherein said color conversion means replaces the image data by inverted data thereof when said determination means  
20 determines that the image data is the specific image.

39. The apparatus according to claim 37, wherein said color conversion means inverts the image data when said determination means determines that the image data is  
25 the specific image.

40. The apparatus according to claim 31, wherein said determination means determines the specific image when the image data has a copyright.

5 41. The apparatus according to claim 31, wherein the image data complies with a hierarchical data format that hierarchically stores image data of a plurality of resolutions.

10 42. An image processing method comprising:  
the input step of inputting image data having a hierarchical structure;  
the determination step of determining if the image data is a specific image; and  
15 the output step of selecting and outputting a layer to be output of the image data on the basis of the determination result.

43. An image processing method comprising:  
20 the input step of inputting image data;  
the determination step of determining if the image data is a specific image;  
the output permission detection step of obtaining output permission information of the image data; and  
25 the image processing step of executing an image process that improves image quality of the image data

in accordance with the determination result and the output permission information.

44. An image processing method comprising:

5 the input step of inputting image data having a hierarchical structure;

the determination step of determining if the image data is a specific image; and

10 the noise addition step of adding noise to the image data on the basis of the determination result.

45. An image processing method comprising:

the input step of inputting image data having a hierarchical structure;

15 the determination step of determining if the image data is a specific image; and

the pseudo halftone step of executing a pseudo halftone process of the image data on the basis of the determination result.

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46. An image processing method comprising:

the input step of inputting image data having a hierarchical structure;

25 the determination step of determining if the image data is a specific image; and

the color conversion step of executing a color conversion process for the image data on the basis of a determination result.

- 5 47. A storage medium that stores a program of an image process, said program having at least:

a code of the input step of inputting image data having a hierarchical structure;

- 10 a code of the determination step of determining if the image data is a specific image; and

a code of the output step of selecting and outputting a layer to be output of the image data on the basis of the determination result.

- 15 48. A storage medium that stores a program of an image process, said program having at least:

a code of the input step of inputting image data;

a code of the determination step of determining if the image data is a specific image;

- 20 a code of the output permission detection step of obtaining output permission information of the image data; and

- a code of the image processing step of executing an image process that improves image quality of the image data in accordance with the determination result and the output permission information.
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